

Topic: Determine the mechanisms that heat and accelerate the solar wind

Project Title:

An observationally-driven predictive capability for the acceleration and heating of fast and slow solar wind streams

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Project Information:

We will combine: (1) measurements of plasma parameters in the acceleration region of the solar wind, made over the last decade of UVCS/SOHO observations,

(2) measurements of in situ solar wind properties, and (3) ab-initio theoretical models of MHD turbulent heating in solar wind flux tubes, in order to understand the mechanisms that heat and accelerate the solar wind. The study will test and refine theories that propose that the geometry of coronal flux tubes is primarily responsible

for the range of fast and slow wind speeds. Thus, this study will put new constraints on similarities and differences in the acceleration of fast and slow solar wind streams.

ROSES ID: NNH05ZDA001N

Duration:

Selection Year: 2006

Program Element: Focused Science Topic

Citations: